



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/678,164	10/02/2000	Peter Jakobsson	34650-00457USPT	4118

7590 12/08/2004

Keith W. Saunders
Jenkins & Gilchrist, P.C.
3200 Fountain Place
1445 Ross Avenue
Dallas, TX 75202-2799

EXAMINER

KUMAR, PANKAJ

ART UNIT	PAPER NUMBER
----------	--------------

2631

DATE MAILED: 12/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/678,164

Applicant(s)

JAKOBSSON, PETER

Examiner

Pankaj Kumar

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 and 38-41 is/are pending in the application. ☐
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-12, 25-34 and 36 is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 13, 17, 20-24, 35 and 38-41 is/are rejected.
- 7) ☒ Claim(s) 5, 14-16, 18 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 7/19/2004 have been fully considered but they are not persuasive.
2. Applicant argues that MacNally does not teach determining filter coefficients based on relative signal strengths of a desired portion and an adjacent portion since MacNally is merely changing the window by reverting back to the old window. This is not persuasive since by MacNally changing the window (MacNally paragraph 15: "If the amplitude of the baseband signals ever goes outside the increased window limits, then the window reverts back to the inner window limits ..."), MacNally is determining filter coefficients since the window represent the filter coefficients. Using MacNally, the desired portion is the in-phase component I and the adjacent portion is the quadrature component Q, which are both output by 200 in fig. 2. Based on the relative signal strengths of I and Q, (desired and adjacent), MacNally determines the gain 212 which determines the filter coefficients, i.e. the gain from 212, which is based on I and Q, determines the coefficients in 200, 202 and 204.
3. Applicant argues about MacNally having an offset integrator to cancel dc offset at two locations. Applicant is correct that MacNally has offset integrators to cancel dc offset at two locations; however, MacNally is using the offset integrator in conjunction with determining filter coefficients based on relative signal strengths of a desired portion and an adjacent portion.
4. Applicant merely states that MacNally does not teach low pass filtering a second processed signal utilizing the filter coefficients to produce a third processed signal but does not argue against the citing in the prior action. Hence, applicant's argument is not persuasive.

Art Unit: 2631

MacNally does teach low pass filtering a second processed signal (MacNally fig. 2: output of adder/subtractor and 206) utilizing the filter coefficients to produce a third processed signal (MacNally fig. 2: output of 204).

Response to Amendment

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 3, 6, 35 are rejected under 35 U.S.C. 102(e) as being anticipated by MacNally 6516185. See prior action for details.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2631

8. Claims 2, 39, 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over MacNally in view of Chalmers 6141372. As per claim 2, see prior action for details. As per claims 39 and 41, here is how the references teach the claims:

9. As per claim 39: The method according to claim 1, further comprising the steps of: receiving said second processed signal; and decimating said second processed signal to reduce digital samples to produce said third processed signal. (MacNally teaches claim 1. MacNally does not teach decimating said second processed signal to reduce digital samples to produce said third processed signal. Chalmers teaches decimating said second processed signal to reduce digital samples to produce said third processed signal (Chalmers fig. 5a: 522). Thus, it would have been obvious, to one of ordinary skill in the art, at time the invention was made, to arrive at the decimation as recited by the instant claims, because the combined teaching of MacNally with Chalmers suggest adaptive filter with decimation as recited by the instant claims. Furthermore, one of ordinary skill in the art, would have been motivated to combine the teachings of MacNally with Chalmers because MacNally suggests down conversion processing (something broad) in general and Chalmers suggests the beneficial use of processing by decimating when there is down conversion such as having fewer samples to process and thus increasing processing speed in the analogous art of signal down conversion.)

10. As per claim 41: The receiver of claim 35, further comprising means for receiving said second processed signal; and means for decimating said second processed signal to reduce digital samples to produce said third processed signal. (MacNally teaches claim 1. MacNally does not teach decimating said second processed signal to reduce digital samples to produce said third processed signal. Chalmers teaches decimating said second processed signal to reduce digital

Art Unit: 2631

samples to produce said third processed signal (Chalmers fig. 5a: 522). Thus, it would have been obvious, to one of ordinary skill in the art, at time the invention was made, to arrive at the decimation as recited by the instant claims, because the combined teaching of MacNally with Chalmers suggest adaptive filter with decimation as recited by the instant claims. Furthermore, one of ordinary skill in the art, would have been motivated to combine the teachings of MacNally with Chalmers because MacNally suggests down conversion processing (something broad) in general and Chalmers suggests the beneficial use of processing by decimating when there is down conversion such as having fewer samples to process and thus increasing processing speed in the analogous art of signal down conversion.)

11. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over MacNally in view of Norsworthy 5512898. See prior action for details.

12. Claims 13, 17, 20-24, 38, 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over MacNally. As per claims 13, 17, 20-24, see prior action for details. As per claims 38 and 40, here is how the references teach the claims:

13. As per claim 38: The method according to claim 1, wherein said step of low pass filtering the second processed signal comprises the steps of: ascertaining said set of filter coefficients that provide a filtering bandwidth substantially equivalent to a bandwidth of an adjacent channel filter based on a power ratio (MacNally fig. 2: filter coefficients such as in 202 and 204 for both I and Q anti-alias filters and filter amplifiers are controlled by one gain controller 212. The gain

Art Unit: 2631

controller would use the same power ratio to adjust the filter coefficients for both the I and Q.

The filter coefficients define the filtering bandwidth.)

14. What MacNally does not teach is that the bandwidths are substantially equal. It is common knowledge that mirror image signifies substantial equivalence. It would have been obvious, to one of ordinary skill in the art, at time the invention was made, to modify the prior art teaching of MacNally with the equivalent bandwidth as recited by the instant claims, because MacNally suggests in col. 5 lines 19-21 that I and Q paths are generally mirror images and thus only one path is described and in various places such as col. 4 lines 32-34, bandwidths are described such as 0 to 24MHz, 0 to 750kHz, in the analogous art of adaptive filtering.

15. As per claim 40: The receiver of claim 35, further comprising means for ascertaining said set of filter coefficients that provide a filtering bandwidth substantially equivalent to a bandwidth of an adjacent channel filter based on a power ratio (MacNally fig. 2: filter coefficients such as in 202 and 204 for both I and Q anti-alias filters and filter amplifiers are controlled by one gain controller 212. The gain controller would use the same power ratio to adjust the filter coefficients for both the I and Q. The filter coefficients define the filtering bandwidth.)

16. What MacNally does not teach is that the bandwidths are substantially equal. It is common knowledge that mirror image signifies substantial equivalence. It would have been obvious, to one of ordinary skill in the art, at time the invention was made, to modify the prior art teaching of MacNally with the equivalent bandwidth as recited by the instant claims, because MacNally suggests in col. 5 lines 19-21 that I and Q paths are generally mirror images and thus only one path is described and in various places such as col. 4 lines 32-34, bandwidths are described such as 0 to 24MHz, 0 to 750kHz, in the analogous art of adaptive filtering.

Allowable Subject Matter

17. Claims 5, 14-16, 18-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
18. Claims 7-12, 25-34, 36 are allowed.
19. See prior action for details.

Conclusion

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 2631

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pankaj Kumar whose telephone number is (571) 272-3011. The examiner can normally be reached on Mon, Tues, Thurs and Fri after 8AM to after 6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PK


MOHAMMED GHAYOUR
SUPERVISORY PATENT EXAMINER